

FEB 14 2002

PTO/SB/30 (5/2000)

Approved for use through xx/xx/xxxx. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST

FOR

CONTINUED EXAMINATION (RCE)
TRANSMITTAL

Subsection (b) of 35 U.S.C. § 132, effective on May 29, 2000, provides for continued examination of an utility or plant application filed on or after June 8, 1995.

See The American Inventors Protection Act of 1999 (AIPA).

Express Mail No.	118
Application Number	09/242,803
Filing Date	February 24, 1999
First Named Inventor	N. El Khiati
Group Art Unit	1755
Examiner Name	D. Sample
Attorney Docket Number	3633-462-999

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.

NOTE: 37 C.F.R. § 1.114 is effective on May 29, 2000. If the above-identified application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under 37 C.F.R. § 1.53 (d) (PTO/SB/29) instead of a RCE to be eligible for the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Interim Rule, 65 Fed. Reg. 14865 (Mar. 20, 2000), 1233 Off. Gaz. Pat. Office 47 (Apr. 11, 2000), which established RCE practice.

1. Submission required under 37 C.F.R. § 1.114

- a. Previously submitted
 - i. Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on _____
(Any unentered amendment(s) referred to above will be entered).
 - ii. Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
 - iii. Other _____
- b. Enclosed
 - i. Amendment/Reply
 - ii. Affidavit(s)/Declaration(s)
 - iii. Information Disclosure Statement (IDS)
 - iv. Other _____

2. Miscellaneous

- a. Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103(c) for a period of 3 months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(i) required)
- b. Other _____

3. Fees The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when the RCE is filed

- a. The Director is hereby authorized to charge the following fees, or credit any overpayments, to Pennie & Edmonds LLP Deposit Account No. 16-1150:
 - i. RCE fee required under 37 C.F.R. § 1.17(e), estimated to be \$ 740.00
 - ii. Extension of time fee required under 37 C.F.R. §§ 1.136 and 1.17, estimated to be \$ 920.00 for a 3 month extension, the request for which is being made herewith
 - iii. Other _____
- b. Check in the amount of \$ enclosed
- c. Payment by credit card (Form PTO-2038 enclosed)

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print/Type)	Marcia H. Sundein	Registration No. (Attorney/Agent)	30,893
Signature	<i>Marcia H. Sundein</i>	Date	February 14, 2002

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, Box RCE, Washington, DC 20231, or by facsimile transmitted to fax no. 1-703-_____ to the U.S. Patent and Trademark Office on the date indicated below.

Name (Print/Type)		Registration No. (Attorney/Agent)	
Signature		Date	

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND Fees and Completed Forms to the following address: Commissioner for Patents, Box RCE, Washington, DC 20231.

02/15/2002 HN00R1 00000036 161150 09242803

01 FC:179 740.00 CH

DC1 - 315189.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: N. EL KHIATI *et al.*

Application No.: 09/242,803

Art Unit: 1755

Filed: February 24, 1999

Examiner: D. Sample

For: SODA-LIME-SILICA GLASS
COMPOSITIONS AND APPLICATIONS

Attorney Docket No.: 3633-462

DECLARATION OF Dr. Patrick Garnier

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

I, Patrick Garnier, hereby declare that:

1. I earned a Bachelor's Degree from Ecole de Mines de Nancy, located in France in 1966; a Master of Science Degree in solid state physics from the University of Illinois, Urbana-Champaign, IL in 1967; and a Doctor of Philosophy Degree in solid state physics also from the University of Illinois in 1972.

2. I am an employee of Saint-Gobain Recherche ("Saint-Gobain"), a French corporation having a place of business at 39 Quai Lucien Lefranc, Aubervilliers, France 93303.

3. My present title at Saint-Gobain is Head of the Department of "Fusion et Élaboration des Verres." I have been employed by Saint-Gobain for almost 30 years and have diversified experience in the formulation, melting, firing, manufacturing, and testing of glass. During that time, I have been an inventor or co-inventor on numerous patents and patent applications, as well as an author or co-author of various scientific publications, in the glass field.

4. I have read and understand the above-identified application, the claims as presently pending, and the most recent Office Action. I am making the following statements in support of the patentability of the present claims.

5. I have reviewed the disclosure of International Publication No. WO 96/11887 (hereinafter "Koch"), which corresponds to U.S. Patent No. 5,776,844 and have reproduced the glass composition of Example 9 of Koch ("the Koch composition") to characterize its properties and compare them to the glass compositions presently claimed in the present application. Specifically I have determined the thermal stress factor, or φ coefficient, of the Koch composition and shown that it is different from the thermal stress factor of the glass composition of the invention as recited in claim 1 of the present application.

6. The following parameters were determined for the Koch composition using appropriate scientific techniques:

- a thermal expansion coefficient, or α value, of $84 * 10^{-7} \text{ }^{\circ}\text{C}^{-1}$;
- a modulus of elasticity, or E value, of 80.9 N/m^2 ; and
- a Poisson's ratio, or μ value, of 0.24 (and thus a $(1-\mu)$ value of 0.76).

Using the measured values for α , E , and μ , the value for the thermal stress factor was determined using the formula:

$$\varphi = (\alpha * E) / (1 - \mu)$$

which is also recited in the specification of the present application (See, page 6, lines 27-32). The thermal stress factor of the Koch composition was determined to be $0.89 \text{ N / (mm}^2 * \text{ }^{\circ}\text{C)}$, which is outside the range of 0.5 to 0.85 recited in claim 1 of the present application.¹

¹ It is noted that Koch reports that the Koch composition has a thermal expansion coefficient, or α value, of $81.5 * 10^{-7} \text{ }^{\circ}\text{C}^{-1}$ which differs from our measured value of $84 * 10^{-7} \text{ }^{\circ}\text{C}^{-1}$. The reason for the difference between our measured value and that recited in Koch is not known. However, even if the stress factor for the Koch composition is calculated using a thermal expansion coefficient of $81.5 * 10^{-7} \text{ }^{\circ}\text{C}^{-1}$, as reported by Koch, the value for the stress factor is $0.87 \text{ N / (mm}^2 * \text{ }^{\circ}\text{C)}$, still outside the range of 0.5 to 0.85 recited in claim 1 of the present application.

7. Glass compositions having a thermal stress factor between 0.5 and 0.85 N / (mm² * °C), such as those disclosed and claimed in the present application, exhibit a particular combination of properties that allow reliable and practical manufacture of glass sheets or substrates. The glass sheets or substrates exhibit desirably minuscule levels of deformation during heat treatments and surprisingly low incidences of cracking or breaking during relatively low temperature deposition treatments, while still allowing a relatively uncomplicated melting process. It is only when the glass material is specifically formulated to contain the claimed components that the glass composition exhibits a thermal stress factor between 0.5 and 0.85 N / (mm² * °C). The claimed glass compositions, having a thermal stress factor between 0.5 and 0.85 N / (mm² * °C), are a surprising and unexpected improvement over the prior art, as explained, for example, in the above-captioned specification at pages 3-6.

8. The glass compositions of the present invention have a different thermal stress factor since they have a different composition from the glass compositions disclosed in Koch, including the Koch composition. For example, the Koch composition, which the Examiner acknowledges is most similar to the glass of the present invention, has 10% ZrO, 54.6% SiO₂, 3.5% CaO, 4.2% MgO, and a sum of the silica, alumina, and zirconia contents of 67.6%. In contrast, the ZnO content of the glass composition of the invention is significantly less, having an upper limit of only 8%. The silicon dioxide, calcium oxide, and magnesium oxide contents of the Koch composition also fall outside the literal scope for these components in the glass composition of the invention where the lower bound of the silicon dioxide content is recited to be 55%, the lower bound of the calcium oxide content is recited to be 4%, and the upper bound of the magnesium oxide content is recited to be 4%. Similarly, the strain point of the Koch composition is significantly outside the claimed range of strain points recited in dependent claim 23, where the strain point is recited to be between 580 and 590°C. Furthermore, the sum of the silica, alumina, and zirconia contents of the Koch composition fall significantly outside the scope of the claimed range recited in dependent claim 33, where the sum of the silica, alumina, and zirconia contents is recited to be from 71.5% to 75%. That the glass composition of the invention and the glass compositions disclosed in Koch, including the Koch composition, have different properties, in particular a different thermal stress factor, is because the amount of each component in the

glass composition of the invention are different from the amounts used in the glass compositions disclosed in Koch. It is precisely these differences that gives the glass compositions of the invention its surprising and unexpected properties (See, e.g., specification at pages 3-6). Koch does not teach the glass compositions of the invention or that such compositions would have the claimed properties.

9. I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above-identified application or any patent issuing thereon.

Dated this 12th day of April, 2002.

Patrick Garnier
Dr. Patrick Garnier